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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,936	08/09/2006	Masanori Tabata	4554-014	4514

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EXAMINER	
STELLING, LUCAS A	

ART UNIT	PAPER NUMBER
1776	

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11/15/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/588,936	TABATA ET AL.	
	Examiner	Art Unit	
	Lucas Stelling	1776	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *14-20,22,23 and 26-30* is/are pending in the application.

4a) Of the above claim(s) *14-18, 20, and 26-30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Noguchi.

3. As to claim 19, Noguchi teaches a water treatment apparatus comprising:

a wastewater treatment bath for treating the wastewater **(See Noguchi Fig. 12, and edited Fig. 12 below, 'A' represents the treatment bath into which ozone is provided through 54 see also [0046])**;

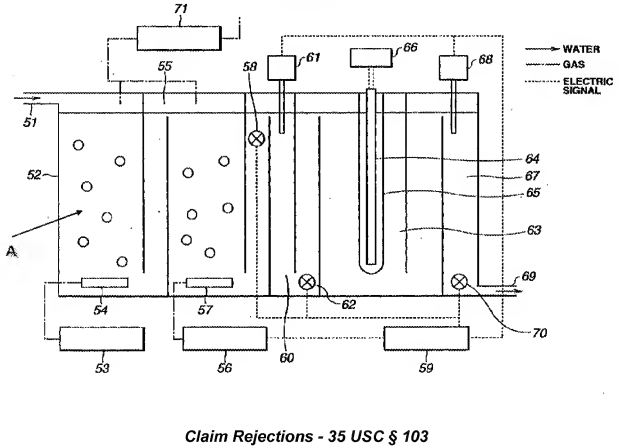
an oxidizing reagent adding unit for adding an oxidizing reagent in the wastewater treatment bath**(54 and see [0046])**,

an ultraviolet treatment unit for irradiating an ultraviolet ray **(64 and see [0046])**; and

an acid treatment bath **(60)** having an acid adding unit **(61)** for adding acid, the acid treatment bath provided on a downstream side of the wastewater treatment bath and on an upstream side of the ultraviolet treatment unit **(See Noguchi Fig. 12 and see edited Fig. 12 below)**. It is acknowledged that the embodiment of Fig. 12 in Noguchi does not mention that the acid treating bath has a pH of 2-4 and that the wastewater treatment bath has a pH of 7-12. However these limitations are drawn to applicant's intended use of the system and they do not serve to define it in terms of its structure.

See MPEP 2114 and 2115. Noguchi is fully capable of meeting these limitations. The solution pH in the acid treatment bath can be made to between 2 and 4 with the acid adding unit, and a pH adjusted water can be supplied to the inlet of the device thereby providing a pH in the wastewater treatment bath of between 7-12.

FIG.12



Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 22 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Noguchi.

8. As to claims 22, Noguchi teaches the apparatus of claim 19, and these limitations of claims 22 are drawn to the functional limitations of an apparatus and the material operated on by the apparatus and do not serve to further patentably define the apparatus in terms of its structure. See MPEP 2114 and 2115. The treatment apparatus in Noguchi is fully capable of providing the amount of oxidizing agent in claims 22.

9. Nonetheless, Noguchi is silent as to the amount of ozone provided with respect to the COD of the liquid. But, the amount of ozone provided, and therefore the effective oxygen to COD ratio, is a result effective variable which drives the decomposition in the liquid. *Discovery of optimum value of result effective variable in known process is ordinarily within the skill in the art and would have been obvious, consult In re Boesch and Slaney (205 USPQ 215 (CCPA 1980)).*

10. As to claims 23, Noguchi teaches the apparatus of claim 19, and these limitations of claims 23 are drawn to the functional limitations of an apparatus and the material operated on by the apparatus and do not serve to further patentably define the apparatus in terms of its structure. See MPEP 2114 and 2115. The treatment apparatus in Noguchi is fully capable of providing the amount of oxidizing agent in claims 23.

11. Nevertheless, Noguchi is silent as to the exact effective oxygen amount provided with respect to the COD of the liquid in the UV treatment unit. Noguchi provides for a deozonizer upstream of the UV treatment unit. However, Noguchi does not mention that the deozonizer eliminates all ozone **(See Noguchi [0046])**. Instead, Noguchi teaches that the sensor detects an ozone concentration, and determines whether ozone removal is sufficient **(See Noguchi [0046])**; which is interpreted to mean that the apparatus is capable of letting ozone pass to the UV treatment tank, thereby providing an ozone to COD ratio even if a substantial amount of ozone is removed in the deozonizer. Moreover, Noguchi teaches the benefit of providing ozone in a UV reaction chamber; namely that ozone is decomposed to hydroxyl radicals which further aid in

removal of organic matters **(See Noguchi [0047])**. Therefore, a person having ordinary skill in the art at the time of invention would have found it obvious to allow some ozone to remain in the ozone treatment unit in Noguchi in order to provide for hydroxyl radicals in the UV treatment section, thereby making the device capable of an effective oxygen to COD ratio in the UV treatment unit. Furthermore, the amount of ozone provided, and therefore the effective oxygen to COD ratio, is a result effective variable controls the amount of hydroxyl radicals produced by UV treatment. *Discovery of optimum value of result effective variable in known process is ordinarily within the skill in the art and would have been obvious, consult In re Boesch and Slaney (205 USPQ 215 (CCPA 1980)).*

Response to Arguments

12. Applicant's arguments filed 10-29-10 have been fully considered but they are not persuasive.

13. Applicant argues that claim 19 is allowable over Noguchi because Noguchi allegedly does not teach that the the pH of the wastewater treatment bath is within a range of 7-12 based upon an alkaline reagent, or that the acid treatment bath has a pH within a range of 2-4. In response, the invention of claim 19 is an apparatus. An apparatus must differentiate from the prior art in terms of its structure. See MPEP 2114, Apparatus claims cover what a device *is*, not what it *does*. *Hewlett-Packard Co. v Bausch & Lomb Inc.,* 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)(emphasis in original). Here, specifying the pH in the wastewater treatment bath and the acid treatment bath does not structurally define the apparatus. The apparatus of Noguchi is fully capable of

receiving water at a pH of between 7-12, which is based on an alkaline agent, and the pH adjustment module **(61)** is capable of lowering the pH to between 2 and 4 since the pH adjustment module provides acid **(See Noguchi [0046])**. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Stelling whose telephone number is (571)270-

3725. The examiner can normally be reached on Monday through Thursday 12:00PM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Las 11-8-10

/Matthew O Savage/
Primary Examiner, Art Unit 1776